CALFED Workshop -- April 15, 1996
Clarion Hotel
Breakout Group (Orange) Huntington Room

Participants:
Diane Hinson (DH), City of Stockton Municipal Utilities
Bob Clark (BC), Central Valley Flood Control Assn.
Bill Johnston (BJ), Modesto I.D.
Ron Knierim (RK), SMUD
John Renning (JR), Bureau of Reclamation
Gilbert Cosio (GC), Murray Burns and Kienlen
Larry Puckett (LP), DFG/FWS--CVPIA Program
Ted Smith (TS), Friends of the San Francisco Estuary
John Kopchik (JK), Contra Costa County
Doug Wallace (JW), EBMUD
Ray Nutting (RN), El Dorado County
Arnold Rummelsberg (AR), Wheeler Ridge
Bill Hassencamp (BiH), CCWD
Lance Johnson (LJ), Westlands WD
John Lathrop, Consultant
John Williams, (No affiliation shown)

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Notes

Questions and Answers about the Process and Alternatives

Q: Lance Johnson -- What is the baseline used to compare alternatives?

A: Just now determining that. Horizon is 2030 with December 1994 Water Quality Control Plan to be in effect. Comment from Bill Johnston. San Joaquin Basin standards in control plan cannot be met Too unrealistic to achieve. Therefore, to assume the December 15 1994 Accord criteria will be met, in total, needs some qualifiers on the San Joaquin Basin.

Q: Ray Nutting -- Why have the core actions excluded the Sierra watershed? If this included then more discussion of the Sierra is needed in the core actions.

A: Upstream watershed management is considered as an action of all the Alternatives. CALFED supports and intends to continue the support of existing programs. Detailed information will be presented in Phase II.

Q: Bill Johnston -- How is CALFED judging the realism and likelihood of "volunteer actions" including land fallowing? May get people to sell you lands but they may not have control of the water rights to do anything about it. Overall, the estimates of lands to take out of production are unrealistically high especially in the San Joaquin Valley. Will there be a ceiling on the price of the lands to purchase? Voluntary participation will depend very much on the price.

A: Pricing of lands still to be tested. CALFED will deal with the people that control the water rights.

Q: Bill Johnston -- How are you going to determine how much water can really be bought? Bill seems to think that the amount to purchase in the San Joaquin Basin is way too high. Far less than 100 K acres will likely be retired. This comment should apply to all Alternatives.

Q: Arnold Rummeslberg. What is the difference between conjunctive use and groundwater banking?

A: CALFED has not yet defined physical descriptions of one versus the other at this time, but, in general it is felt that traditional conjunctive use can be done in the Sacramento Basin while water banking for longer carryover would be done in the lower San Joaquin Basin. Previous studies have been reviewed and the findings have been applied to set realistic physical bounds to the preliminary studies on conjunctive use and banking done to date. Preliminary studies are in the "ballpark". More detail will evolve in Phase II.

General comments:

John Renning -- Need to have more detailed studies done before the alternatives get narrowed down. To comments on and reduce the number of alternatives without more technical data on ecosystem and water supply targets are meaningless at this point.

Arnold Rummelsberg -- The concept of groundwater banking needs to be expanded in core action.Participant

Strength and Weaknesses of System Reoperation Alternatives (A,F,D)

Alternative A.

Strengths

Bob Clark -- May be the cheapest alternative.

Ted Smith -- Addresses demands better than others.

? -- Deals with some of the major San Joaquin issues.

John Williams -- Addresses the fact that we have over allocated water in California.

Weaknesses.

Bill Johnston -- Retiring lands in the San Joaquin Basin will not reduce the need for export. If lands are retired in the San Joaquin Basin the water will be needed and put to use somewhere else in the Basin.

Arnold Rummelsberg -- The San Joaquin Valley is already practicing full conjunctive use. Land retirement is at maximum now due to the fact that SWP is not able to meet demands. Tulare Lake Basin irrigation efficiency is currently at 97 percent. Too efficient now. Any further such operations would affect basin-wide salt balance. This comment should apply to all alternatives.

Lance Johnson -- All solutions in this alternative will cause impacts in other areas. CALFED should consider not only local or even State-wide impacts but national and global impacts as well.

Bill Johnston -- CALFED may be too optimistic on just what can be accomplished with conjunctive use.

Alternative F

Strengths

Lance Johnson -- Does provide for some habitat restoration.

Larry Puckett -- Re-establishment of meander belts on the Sacramento River is good.

Arnold Rummelsberg -- Drought water bank concept is good and should be considered.

Weaknesses

John Williams --Not enough detail on site specific spawning habitat needs..

Lance Johnson -- Does nothing for M&I water quality.

Lance Johnson -- Does nothing for South Delta pumping fish entrainment situation.

Arnold Rummeslberg -- Nothing in this alternative firms up water supply.

Bob Clark -- Needs more on levee stability. This alternative, more than any of the others, should stress the maximum amount of levee stabilization.

John Williams -- Density dependent mortality of fish may undermine the effectiveness of habitat improvement.

Lance Johnson -- Small in-Delta storage is worthless. Should consider at least the size of Delta Wetlands Project (200 to 300 TAF).

John Renning -- The functionality of operating in-Delta storage has not been properly tested.

Doug Wallace -- In-Delta storage undermines levees.

Larry Puckett -- Weakness in state of art of fish screens. Effectiveness of screens over stated. Pumping to in-Delta storage will cause additional fish entrainment problems.

Bob Clark -- Will take good agricultural lands out of production in the Delta.

Alternative D

Strengths

Bob Clark -- Enhances water quality, maintains Delta pool, and is the most viable way of moving water through the Delta.

Gilbert Cosio -- Most implementable.

Bob Clark -- Attractive to Delta interests.

? -- South of Delta storage concept good but it should be supplemented with north of Delta storage too.

Weaknesses

Lance Johnson/Doug Wallace -- Levee stabilization and emergency response procedures need to be extensive.

John Renning -- Does not solve M&I water quality treatment problems especially the dissolved organics in peat soil. Not much detail presented at this time.

Ted Smith -- Evaporation losses associated with new storage may be high. Should account for them with alternatives with long-term carryover implications. Answer: It is being considered even in the preliminary studies being done now.

John Kopchik -- System reoperation should include demand management in all alternatives.
Strength and Weaknesses of Reoperation and New Facilities Alternatives (C, E, G, B)

Alternative C

Strengths

Bob Clark -- Strong for M&I water quality control.

Lance Johnson -- Would reduce effects of South Delta pumping.

Weakness

Bill Johnson -- Isolated facility does not solve the M&I water quality treatment problem completely. Would still eventually have to mix Sacramento River and south Delta water at some point before delivery.

Bill Johnson -- Could actually reduce overall exports if Banks PP has to shut down. Reply back to Bill was that the intention of this alternative was to continue to use the current Delta plumbing and south Delta pumping facilities in

addition to the new isolated facility. He said it was not clearly stated that way.

John Kopchik -- System reoperation should include demand management in all alternatives. (Same comment as above alternative.)

Doug Wallace -- Increased channel conveyance will reduce salmon production. (Applies to C and D also.)

Alternative E

Strengths

Bob Clark -- More water can be sent to the south Delta pumps at higher water quality.

Ted Smith -- More habitat improvement.

? -- Common pool of water maintained.

Weaknesses

Lance Johnson -- Water quality for exports not improved. (?) Entrainment is still a problem.

John Renning -- Not much evidence that widening channels will work in reducing entrainment and fish mortality.

Gilbert Cosio -- Setback levees on the Mokelumne River do not equate to more shallow water habitat.

Doug Wallace -- Adverse impact on salmon.

Alternative G

Strengths

Doug Wallace -- More opportunities for conjunctive use.

? -- Keeps more water in the tributaries.

Weaknesses

John Renning -- Expensive.

Arnold Rummelsberg -- Should not waste any more time on this one. Too expensive

Lance Johnson -- Biologically unsound. Massive environmental impacts. Dumping wrong water into the rivers. Will confuse the anadromous fish.

Bill Johnston -- Major institutional problems. Priority of water rights would create havoc.
Lance Johnson -- Would further increase demand on Sacramento River if other than spills were used.

Alternative B

Strengths

Doug Wallace -- One of the best for M&I water quality operations.

Bob Clark -- Flood control benefits due to north of Delta storage. Provides large amount of upstream and downstream storage.

? -- Provides good pollution control.

Weaknesses

Lance Johnson -- Why are we increasing Delta outflow? Already meeting Delta standards.

John Renning -- Major inconsistencies in this one. If you cannot change Delta standards you may not be able to pump more. Has all the problems potentially inherent with the south Delta pumping export ratio limiting situation.

Arnold Rummelsberg -- Thinks to use Conjunctive Use for ecosystem is too expensive, and, therefore, unreasonable. It will never happen

Arnold Rummelsberg -- No meaningful water supply in this one.

Strength and Weaknesses of New Facility Alternatives (H, I, J)

Alternative H

Strengths

John Renning -- Number of Delta islands that are deteriorating and nearly shot now. They would likely have to be rehabilitated anyway. May as well use them for storage.

Weaknesses

Bill Johnston -- Must include Old River Barrier to work.

Doug Wallace -- Concerned about levee stability. How does one measure the structural integrity of levees and possibly infrastructure on a flooded island?

Bob Clark -- How does CALFED propose to siphon under levees? The siphons would have to be very large. Is the state of the art such to determine this? (Unanswered.)

John Renning -- Would place even more reliance on Delta levees. Infrastructure must be located to non-peat soils.

Bob Clark -- Will take good agricultural lands out of production in the Delta. (Same comment as in Alternative F.)

General -- Too uncertain to deal with.

Alternative I

Strengths

Bob Clark -- Generates plenty of new water.

Arnold Rummelsberg -- Cost of project water will drive up value of water and produce more willing sellers for land retirement. Arnold the added the qualifier that SWP Contractors would not agree to increased rates; therefore it may not work.

Lance Johnson -- Many added flood control benefits.

Weaknesses

Arnold Rummeslberg -- Many institutional problems here. Districts, as we know them, would completely change. Would require water transfer laws in California to be completely changed to work. Also, it is likely just too expensive to ever happen.

Arnold Rummeslberg -- Should consider hooking it in with Eastside transfer facilities rather than trying to cross the Sacramento River to the west. Can't imagine the expense of a 15,000 CFS siphon under river. It would also be very expensive to bring to the southern Delta pumps once it has crossed the river.

John Renning -- Major terrestrial habitat, cultural and social impacts. Envision the inherent cultural problems (Indian artifacts and burial grounds, etc.) associated with Los Banos Grandes and multiply them many fold.

Alternative J

Strengths

Bill Johnston -- Solves more for collectively solving the objectives of CALFED than any of the other alternatives.

Weaknesses

Lance Johnson -- In-Delta water users would likely become more vulnerable from a water quality standpoint. At present much of the western Delta water quality problems are mostly always solved by incidental operations of the south Delta pumps.

Lance Johnson -- May need some assurance that some pumping would continue for circulation purposes for water quality conditions in the south Delta.

Arnold Rummeslberg -- This alternative is not viable on it own merits and should be studied in conjunction with Alternatives C and D.

Doug Wallace -- Would negatively affect EBMUD water quality if there is an intertie required, as suggested, potentially commingling Sacramento and Mokelumne River waters. If it doesn't, it's all right.

Bob Clark -- Would stir up old animosities among those who perceive this alternative as a rehash of the Peripheral Canal. If it truly is significantly different from the old PC concept it needs to be more clearly described in future meetings and CALFED literature discussing the alternatives.

How Well do Alternatives Match Solutions?

How Well do Alternatives Fulfill Primary and Secondary Objectives?

Advice to CALFED

John Renning -- The whole CALFED process is flawed. It's ridiculous to "vote" on whether or not the alternatives fulfill primary or secondary objectives without far more definition, detailed analyses made producing measurable results, costs developed, allocation of costs, etc.

Bill Johnston -- Refused to vote on this without more data. The rest of the group pretty much echoed this concern.

Arnold Rummelsberg -- Environmental "restoration" is way too vaguely described for the amount of emphasis placed on it. Need to talk about and present, on equal footing, environmental management. Do what is achievable under the current state of the art of management practices. Don't shoot for a target that just simply cannot be attained. Too much blame has been placed on the water diverters for environmental degradation. Not enough attention is paid to the ecosystem degradation caused by mismanagement of the resources.

Bill Johnston -- Cited an example in support of Arnold. "Spent millions of dollars on salmon restoration with "improved" in-basin management practices to little or no avail. CALFED should look more closely at the take limits on commercial and sport fisheries.

Doug Wallace -- CALFED should pay attention to redirected impacts.

Bob Clark -- Need to eliminate or combine some of the alternatives to make more sense.

Bill Johnston -- You could retire all the land in the San Joaquin Valley and this still would not fix quality problems in the Delta.

John Renning -- Should focus on Delta areas only. Examples: What is benefit of salmon restoration on the River to the Delta? What does land retirement have to do with Delta.

Diane Hinson -- Need clarification on how this effort is being tracked with other related on-going studies.

Lance Johnson -- The economical benefits and impacts of the alternatives are unrealistic and need to be expanded beyond the regional level; to the national and even possibly international level to get a true reading. Zach explained that the preliminary data is currently depicted at the regional level for political reasons but the final economic numbers will be far more detailed to include the full range.

As a whole, the group did not want to vote under the pretext presented. Headings for the following table were changed as shown to get their feedback. People were also allowed to attach qualifiers as noted.

Alternative	Retain	Toss
A	3 (These people don't like the Alternative, as written, but recognized the need for some version of it.)	7 (Land retirement big issue. No significant water supply. Demand management unreal.)
B	7	2 (Land retirement. Isn't reliable enough.)
C	8 (Retained in conjunction with D and J.)	2 (Not doable.)
D	8 (Retained in conjunction with D and J only.)	2 (E is better.)
E	5	3
F	2	7 (Not enough for water supply.)
G	1	8 (Cost too high.)
H	1 (Lathrop)	9
I	5	5
J	7	2 (Politically infeasible.)

Improvements B,C,D,J

Need practical land retirement and demand management descriptions.

Should consider salt balance in the entire San Joaquin Basin.

Should consider agricultural drainage dacilities.

Add flood control facilities for Sacramento River.

Next workshop.

More detail on alternatives.

More information on the sources of numbers.

Comment: Lance Johnson - Get information out sooner.

CALFED WORKSHOP 6
APRIL 15, 1996
AFTERNOON BREAKOUT SESSION (RED)

Attendees (Partial list; we have not been able to obtain a copy of the attendance list form CALFED):
Tom Cannon (Consultant Team - Resource person)
Karen Johnson (Consultant Team - Recorder)
Steve Macaulay (State Water Contractors - 916/447-7357)
Victor Pacheco (CALFED - Resource person)
Cliff Schultz (Attorney for Kern County Water Agency)
Gail Ervin (Consultant Team - Facilitator)
Peter Standish-Lee (Consultant Team - Note-taker)
William "Bill" Dunn (Calaveras Co. M.D. - 209/293-4045)
Burt Bundy (Sacramento Valley Land Owners Assoc. - 916/384-0161)
Tom Zuckerman (Central Delta Water Agency - 209/943-5431)
Mike Stearas (San Luis Delta Mendota WA - 209/364-6185)
Sue Redfern (Panochi Water District - 209/392-2426)
Amy Fowler (Santa Clara Valley Water Dist. - 408/265-2607, ext. 2014)
Dana Fuehauf (San Diego Co. Water Authority - 619/682-4172)
Roberta Boregonoro (LWVC - 415/931-4605)
Ken Lentz (USBR - 916/979-2472)
Kathleen Anderson (Citizen - 510/893-4560)
David Miller (Harza Engineering - 510/636-5214)
Glen D. Birdzell (City of Stockton - 209/937-8734)
Bill Mancinelli (Mojave Water Agency - 818/969-2431)

QUESTIONS AND ANSWERS ABOUT
THE PROCESS AND THE ALTERNATIVES

Note: Most of the input consisted of comments rather than questions. They are indicated by a **(C).** Questions and responses are indicated by **(Q)** and **(R)** respectively. Points not fully answered are highlighted with asterisks **(*).**

***(C).** Core actions have not been discussed at length. They need to be discussed at a workshop that is separate from those on the individual alternatives. Several in the group agreed.

***(C).** Implementation of Core Actions may differ for each alternative. Those differences are being lost in the discussions. They should be dealt with as part of the alternatives discussions as well as individually. Core actions may not be affordable as presented.

***(C).** Cliff Schultz. Core actions have changed substantially. They are not simply core any more. They are too specific.

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*(C). Steve Macaulay. Agrees that core actions are now too specific. They can't be supported by the information that has been made available.
(R) Victor Pacheco: The greater level of detail was provided in response to comments made at Workshop #5. The numbers provided are just guesses and quantitative ideas. The numbers can change. Participants should go ahead and submit any suggestions for changes.

*(C) Glen Birdzell. The timing of addressing core actions is important. When will core action issues be resolved? There may be conflicts with elements in each alternative.

*(C) Roberta: She had asked for more detail and is happy with the results. If core actions and action elements go across the alternatives, then that is good info and it should influence the way we look at alternatives. We can go back and see how, why, where, and when the alternatives are influenced. The Core Actions are good as they stand.

*(C) Kathleen: We should assume that the core actions are common. Lester said they may vary from alternative to alternative but we must assume that they stay constant. The primary issues to be dealt with are far different and more complex than those stemming from core actions. They provide a "false sense" to the alternatives. It is too soon to cast them in concrete.

*(C) Cliff Schultz: It's appropriate to have core actions but we shouldn't waste so much time and money. We should try Core Actions and Essential Elements in sequence so we can see if they work.

*(C) Steve Macaulay: It is too soon to get so specific. There is not enough science to back core actions up. We should see what the responses to them are. Regarding the pie charts, he likes the idea of identifying early wins. However a sense of equity is currently missing due to disproportionate costs. He doesn't think we have moved forward equally. Their values are not necessarily tied proportionately to dollars. Need an indication of how goals improve with each objective.

*(C) Bill: One half of the costs being devoted to environmental improvement is too much. The whole ship could sink if the bill is too big for it to be saleable.
(R) Gail points out the cross benefits from one objective to another. Would clarification of this factor help?

*(C) It is dangerous to show one half of the costs is for environmental restoration. It makes it difficult to sell the alternatives. People won't know there are cross benefits.

*(C) Roberta: Demand-side elements are essential.

*(Q) Dana: Where did the numerical assumptions (such as for water conservation or acreage of habitat) come from? Providing answers to this question at the next workshop would be OK.
(A) Tom Cannon: Most came from research into existing plans. Technical teams developed them and they have backup documentation for them.

(Q) Should comments on the wording and rewording recommendations go to CALFED in writing?
(A) Yes.

(Q) Bill. What will be the process to acquire lands?
(A) From willing sellers to extent possible.

(C and Q) Bert: He has problems with notion that acquisitions of certain acreages of land equate to fixed quantities of water to be saved. People need to see demonstrations of the actual savings to buy into this idea. What are the baseline demands and how were they derived? We need to clarify assumptions.

Gail Ervin: Participants, please see Section 1 of mailout. Write in and submit or mail in any further comments on these topics.

***(C)** Kathleen Anderson: She needs more information on the quantities involved so that a non-water person can relate to them. It would be helpful to provide additional background information such as the total number of units in use or in certain areas. She needs percentages of impacted entities (such as acres of land) compared to existing totals.

***(Q)** What are the baseline conditions/assumptions for the actions as of today? How will they change with each alternative?

***(C)** Need to better understand the context of numbers used in the alternatives. (i.e., A comparison of the present numbers of acres in ag use vs the number of acres to be retired, etc.)

***(C)** A better understanding of growth implications is needed.

***(C)** Core actions need to better address conjunctive use.

***(Q)** If alternative A reduces diversions, do the rest increase diversions?

***(Q)** How will diversions impact the Bay specifically? Need for fresh water flows should be tied to ecosystem benefits.

***(Q)** Is enough being proposed for Ag and urban source controls? Isn't there more that urbans can do?

***(C)** Seasonality of water quality impacts needs to be considered. For example, first flush conditions can be addressed by storing during good water quality periods; variability of water quality is difficult to treat. Difficult siting and conveyance issues exist for large facilities.

***(C)** Delta exporters: Alternatives should deal with South Bay Aqueduct water quality issues.

***(C)** Clarify "temporary" diversions; also clarify water purchases (where will water come from?).

*(Q) What are the impacts to the Delta water table and overall levee seismic stability and subsidence with the alternative components?

*(C) Land retirement should be considered entirely separately from conservation.

PARTICIPANT COMMENTS ON ALTERNATIVES

Habitat corridors of Alternative E need more info and definition.

Roberta: Alternatives should mimic the natural system as much as possible. CALFED should prioritize lands proposed for retirement (e.g. Ag lands with excessive soil salinities versus those with degraded habitat values).

San Joaquin Valley salt management (i.e. subsurface Ag drainage) should be specifically dealt with in all alternatives.

Alts A, F, D, B, and E all run water thru the Delta for export. That is their weakness due to the water quality and habitat problems they create.

Roberta: Add extensive demand management to all alts. Not enough to have max conjunctive use just in Alt D; need it in all alts.

Kathleen: Wants to know more about the habitat corridors.

ALTERNATIVE "A"

EXTENSIVE DEMAND MANAGEMENT

STRENGTHS

Roberta: Creates confusion but likes fact that demand side management so important as to warrant alternative.

Tom Zuckerman: Agrees with strength of demand management. People need to be weaned off the Delta water supply.

Excess supplies have produced communities with unrealistic views of how much water it takes to maintain them, especially in desert areas. We need proposed reductions and controls over water demands so that they are not unrealistic.

Steve: Regarding dry year crop shifts to drought resistant crops--these might be helpful.

Mimicking the natural system is good.

WEAKNESSES

Not a distinct alternative. Aggressive demand management should be in all alts.

Dana: San Diego Water Authority doesn't get into land use decisions. Demand side BMPs should be used to expand water conservation rather than CALFED making the decisions.

Steve: Currently, Alt A is not equitable, especially regarding fallowing: He presumes that the objective is to to create more Delta outflow? This needs to be clarified.

A lot of agricultural land is being retired, perhaps it should be phased or temporarily fallowed.

More focus on growth implications is needed. Supply planning and land use planning are needed.

Make sure conservation efforts match with state urban MOU BMPs. Use urban water conservation council numbers and formal process.

Dry year crop shifts should be added.

Pricing signals should be added (e.g. Inclining block rates).

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ALTERNATIVE "A" (page 2)

STRENGTHS	WEAKNESSES

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ALTERNATIVE "B"

NEW STORAGE

STRENGTHS

Several: Alt has both u/s and d/s storage which are both needed.

Glen: A strength is to bring out the salt issue in the SJV . Wants to see it in all alts. Salt has major envtl impacts.

Kathleen: Likes the source control features.

Bay habitat restoration is good.

WEAKNESSES

Steve: There is no fish protection certainty. If do all this and still kill fish then it is not a complete alt.

Glen: Need to add extensive Delta levee improvements along with the habitat improvement.

Roberta: Wants subsidence hazards evaluated in all alts.

ALTERNATIVE "B" (page 2)

STRENGTHS	WEAKNESSES

ALTERNATIVE "C"

DUAL FACILITY

STRENGTHS

Dana: Likes isolated facility but don't size it yet.
(A) Victor : Sizing is only illustrative.

Bill: It doesn't meet the objectives. This is "Duke's ditch" revisited.

Small conveyance facility is good.

WEAKNESSES

Steve: NBA gets some of worst qual water (generic to all that divert out of existing Delta depending on conditions). Same true for SBA.

Don't state selected nos. and sizes yet; just give ranges.

Tom: Is the worst alternative with respect to resulting water quality remaining in the Delta. Does not fit with objectives of the process. Delta people don't want this.

(A) Tom Cannon: It handles wq in the Delta by taking only half of the exports out.

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ALTERNATIVE "C" (page 2)

STRENGTHS	WEAKNESSES

ALTERNATIVE "D"

THRU DELTA

STRENGTHS

Least resistance from Delta water users-limits opposition to transfer facilities.

Tom: This alt.satisfies his objections to the isolated facility.

Bill: Likes d/s storage aspects.

This is a "pure" alt.

Cliff: Thru Delta best except for fish and WQ.

Conjunctive use emphasis over surface water off-stream storage is a plus.

WEAKNESSES

The State cannot demand more conjunctive use.

Roberta: Wants conjunctive use emphasis over surface water throughout service areas in this and all alts. Wants it tied to envtl uses too. Alt needs u/s storage.

Water Quality improvement depends entirely on source control. Need more of it in watersheds because urban source control improvement potential is exhausted.

Roberta: Likes the source control actions. Note Bay Area situation and how much progress has been made there.

Alternatives which run water through the Delta for export create problems with water quality habitat etc. Alternatives with through Delta flow should be carried forward into the EIR/S analysis (alternative D is best of 5).

ALTERNATIVE "D" (page 2)

STRENGTHS	WEAKNESSES

ALTERNATIVE "E"

HABITAT AND CONVEYANCE

STRENGTHS

Tom: This alt holds much promise. It is an innovative concept that needs to be looked at carefully.

Roberta: Restoration of the Delta to a "park-like" setting idea is good; that is how the Delta was historically.

Channel storage and reduced velocities are important.

Set-back levees for habitat restoration are good.

Real time monitoring is a plus.

WEAKNESSES

Tom: Doesn't want Delta turned into "parkland" solely. Need to preserve agricultural beneficial uses too. Ag is essential component of Delta as we know it.

Tom: Focus restoration efforts on Franks Tract, Mildred and other flooded islands: Do all you want there because there are no conflicting land uses. Restoration ought not to involve losses of productive Ag lands.

Steve: Need to add South Delta channel improvements

ALTERNATIVE "E" (page 2)

STRENGTHS	WEAKNESSES

B-001893

ALTERNATIVE "F"
EXTENSIVE HABITAT IMPROVEMENT

STRENGTHS

Storage must be tied to reducing conflicts and meeting ecosystem objectives.

WEAKNESSES

Glen: No water quality improvement BMPs have been proven to be effective anywhere in the country.

Tom Z: What's missing is ability to take water when its at its best level of water quality; separate drinking water like CCCWD is doing with the Los Vaqueros project. The same separation concept should be used by CALFED.

Bill: Changes in water quality can "gum up" treatment plant ops. How are you going to store drinking water on scale needed by SWP? Not sure thatit is feasible to store in-Delta, if it can be done it should be.

Roberta: Ecosystem storage should strive to simulate natural conditions.

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ALTERNATIVE "F" (page 2)

STRENGTHS	WEAKNESSES

B-001895

ALTERNATIVE "G"

EAST SIDE FOOTHILLS

STRENGTHS

Helps east side water users and areas of origin.

Facilitates exchanges.

Frees water for in-stream flows.

Increased in-stream flows in foothill tribs due to conveyance facility exchanges is good.

WEAKNESSES

(Q) Bill: Where are you going to get the water to fill this system?. **(A)** Take from Shasta.
He misunderstood alt thinking that Sac/Feather R water would be released to rivers. **(A)** No, all is exchanged in area of use. Only homestream waters are released to rivers.

(Q) Glen: Need more than moderate Levee improvements plus habitat. Need to show this weakness.

This is a reincarnation of east side canal. Urban impacts are significant. Origin of source waters unclear.

Is extensive Sacramento groundwater pumping involved?

Moderate habitat restoration and levee improvements are not enough.

ALTERNATIVE "G" (page 2)

STRENGTHS	WEAKNESSES

B-001897

ALTERNATIVE "H"

CHAIN OF LAKES

STRENGTHS	WEAKNESSES
	Bill: Ridiculous. Cliff: Sees water quality problems; doesn't think feasible to remove peat soils or seal. Adds costs to treat by billions. Roberta: Levees; are you increasing overall stability? Spoke to seismologist: Thinks Delta not protectable in long term. Tom: If flood islands, Delta water table will rise; pops up on adjacent islands. This is a major weakness. Any increase in TOC is too expensive to treat with WTP technologies. Worst impacts on Delta habitat, water quality, Ag production and Ag water quality. Too reliant on levees, highly vulnerable.

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ALTERNATIVE "H" (page 2)

STRENGTHS	WEAKNESSES

B-001899

ALTERNATIVE "I"

WEST SIDE CONVEYANCE

STRENGTHS	WEAKNESSES
Off stream storage for environment is good.	Roberta: All isolated facilities have the lack of institutional guarantees weakness. Reservoirs do not help environmental resources; they only mitigate past damages. Takes Ag, M & I out of Delta protection picture. Can't assure that urbans won't take what they need, when they need it, regardless of consequences. Dams only benefit those who live d/s. Kathleen: Agrees that you cannot guarantee future operations. Steve: Concern with feasibility of tunneling or siphoning under Delta. Bill: Why go all the way to Shasta? Why not go from confluence of Feather and Sac Rivers to Hood. Diversion location will not necessarily improve water quality. Urban land impacts are significant. Weak as is. Perhaps combine east and west side conveyance facilities with Alt J?

ALTERNATIVE "I" (page 2)

STRENGTHS	WEAKNESSES

B-001901

ALTERNATIVE "J"

PC

STRENGTHS	WEAKNESSES
Water quality and fisheries benefits.	Roberta: Too big; too much water going South.
	Steve: Institutional guarantees tough to work out. Should maintain South Delta water quality improvement plan for South Delta diverters.
	Upstream storage component should be added.
	For operational flexibility, South Delta export facility should be maintained.
	The bigger and less defined a project is the more likely that the public will have a negative reaction.

ALTERNATIVE "J" (page 2)

STRENGTHS	WEAKNESSES

B-001903

COMPARING ALTERNATIVES TO SOLUTION PRINCIPLES AND OBJECTIVES		
ALT.	UNMODIFIED ALTERNATIVE MEETS SOLUTION PRINCIPLES & OBJECTIVES	UNMODIFIED ALTERNATIVE DOESN'T MEET SOLUTION PRINCIPLES & OBJECTIVES
A		
B	VOID	
C		
D		
E		
F		
G		
H		
I		
J		

See note on next p.

B-001904

[Note: This group refused to vote on the alternatives. They felt that there was insufficient information being made available on the alternatives to allow even a "straw" vote.]

SUGGESTED MODIFICATIONS TO STAFF RE ALTERNATIVES	
[Note: This item was not covered specifically due to lack of time. However, suggestions were made during the discussion of strengths and weaknesses and they are noted there.]	
ALT.	**SUGGESTIONS**
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	

The following paragraph summarizes an overall discussion that occurred at the end: The 3 basic alts are: C (SM ISOL), D (BASIC THRU DELTA), G, AND J . A strong component of A belongs in all. Cliff: Need to add storage component to these. Cliff likes to see as continuum. Bill says OK to have an A alone. Roberta wants A or some version of it in there for comparison. Need inclining block rate or something similar to push demand mgmt. Cliff: Need to separate conservation and land retirement. Steve: ID any alt that reduces Delta inflows. They will need guarantees. Must address system vulnerability beyond what's in the alts.

BIN COMMENTS

Only one:

Kathleen : Wants Bay outflow addressed. Null zone needs attention.